

In a system having a base station transmitter for transmitting data blocks to one or more mobile stations over a radio link, there is a method for determining an uplink transmit power level at which to transmit a current data block over a radio link from the mobile to the base transmitter station. The method evaluates airlink quality measurements in the radio link over a measurement interval, wherein each time a message is sent to the mobile station, it is evaluated whether a specified number of uplink blocks have been transmitted by the mobile station since the start of the measurement interval. Based on the evaluated airlink quality measurement, the method determines the uplink transmit power level that the mobile should be using for the current block, and adjusts the transmit power level, if necessary, for the current block.